

From: ["Bucholtz, Paul \ \(DEQ\\)" <BUCHOLTZP@michigan.gov>](mailto:BUCHOLTZP@michigan.gov)
To: [Saric](#)
[James](#);
CC:
Date: 1/25/2013 3:49:45 PM
Subject: RE: Area 1 RAO MInor Revisions

Jim,

As I review this language and consider how we communicate our goals for the river, I am becoming more troubled by the 0.33 sediment value. It has no meaning in the context of a risk discussion, and has little meaning when compared to the relatively technical discussion of "risk goals" like the Fish tissue, cancer risk, and hazard index. I really think our sediment number should be tied to one of the other goals for consistency. I know you hold a different opinion, but I am more troubled by this detail as I think in the context of our goals. From that perspective I think a sediment goal of 0.2 would work best (which is the 10-5 all bass diet for the high end sport angler and HI – 1 for the mixed diet high end sport angler). Alternatively 0.3 (mixed diet for the CTE sport angler) or 0.34 (which is the HI-1 for the bass only diet for the high end sport angler) would be better alternatives than the 0.33. I trust we will be discussing in more detail.

Thanks

From: Milt Clark [mailto:mclark-59@comcast.net]
Sent: Thursday, January 24, 2013 5:15 PM
To: JAMES SARIC
Cc: Bucholtz, Paul (DEQ); Todd W. King
Subject: Fwd: Area 1 RAO MInor Revisions

Jim,

A later MDCH document gives the meal per week range as 0.05 to 0.20, not 0.06 to 0.20 as I stated. A small detail, but might as well be accurate.

Milt

Begin forwarded message:

From: Milt Clark <mclark-59@comcast.net>
Date: January 23, 2013 11:23:23 AM CST

To: Saric.James@epamail.epa.gov

Cc: Eric Blischke <blischkee@cdmsmith.com>, "John (DEQ) Bradley" <BRADLEYJ1@michigan.gov>, "Paul (DEQ) Bucholtz" <BUCHOLTZP@michigan.gov>, Frank.Dillon@CH2M.com, Tony Gendusa <GendusaTC@cdmsmith.com>, Jeff.Keiser@CH2M.com, John Kern <jkern@kernstat.com>, "Todd W. King" <KingTW@cdmsmith.com>, James Lavelle <LavelleJM@cdmsmith.com>, Patricia.White@CH2M.com, Andrew Santini <SantiniAD@cdmsmith.com>

Subject: Re: Area 1 RAO MInor Revisions

Jim,

Your interpretation of HIs and simply the general 10-5 cancer risk range was also an option we kicked around. Putting in the meal per week range captures the immunotoxicity RfD tissue target. We're on the same page.

Having both a short term long (e.g., 10 year) and long term goal (30 year) might be a reasonable way to go. A short term goal was developed for the Fox to maximize near term risk reduction results and then permit MNR to achieve lower fish tissue targets in the future.

Milt

On Jan 23, 2013, at 9:15 AM, Saric.James@epamail.epa.gov wrote:

Milt,

I think your recommended changes are appropriate to modify the 1 meal per week to include a range of (.06-.20). I don't think we need to make any changes to the language for the HI of 1 or 10-5 risk, as those targets imply that you would have to meet both HI numbers and that anywhere within the 10-5 risk range would be meeting the target.

I am not sure we need 30 year targets in the RAO, but it would make sense to have in the proposed plan. I will need to see John Kern's revised table to determine if the 10 year target time frame is reasonable, or if that should be switched to another time frame.

thanks

Jim



Milt Clark ---01/22/2013 07:51:19 PM---Jim, Patty, et al, I think our mutual approach is correct, focusing upon the RME for bass (SMB) fish

From: Milt Clark <mclark-59@comcast.net>

To: JAMES SARIC/R5/USEPA/US@EPA, "Paul (DEQ) Bucholtz" <BUCHOLTZP@michigan.gov>, "Todd W. King" <KingTW@cdmsmith.com>,

Cc: Jeff.Keiser@CH2M.com, Patricia.White@CH2M.com, James Lavelle <LavelleJM@cdmsmith.com>, Andrew Santini <SantiniAD@cdmsmith.com>, "John (DEQ) Bradley" <BRADLEYJ1@michigan.gov>, Eric Blischke

Jim, Patty, et al,

I think our mutual approach is correct, focusing upon the RME for bass (SMB) fishers and a sediment target for each reach. Sediment targets needed to protect the mixed diet RME consumer eating SMB and carp would be challenging. Having said that, since MDCH's survey of 900 Kalamazoo fish consumers found a high intake (24%) of carp, we should compare all potential alternatives (e.g., sed RALs) to the level of protection afforded to all known fish consuming populations.

I made just a few small changes to the RAO below to avoid confusion with GP.

At the Benton Harbor meeting I proposed a target of 0.20 ppm for SMB, giving a meal per week under MCDH's advisory system. However, I did not provide the meal per week range, which is 0.06 to 0.20 ppm. To be accurate, I would modify the RAO below to reflect the meal per week range used by MCDH. This range also includes the SMB tissue target of 0.07 ppm derived from the non-cancer HI of 1.0 (immunotoxicity RfD). We would want to place emphasis on the immunotoxicity RfD endpoint, which is 3.5 times lower than the reproductive RfD. An HI of 1.0 for the reproductive endpoint yields a meal per month consumption value of 0.25 ppm.

Also to be clear, we probably don't want to imply an explicit 1×10^{-5} cancer target for the 10 year goal, since that yields 0.04 ppm in SMB, which is for unlimited consumption (0.05 ppm) under the MDCH advisory system. A 0.20 ppm tissue target in SMB yields a 4.7×10^{-5} cancer risk. Specifying a cancer risk less than 5×10^{-5} for a 10 year SMB target would avoid confusion.

Below are minor edits to RAO 1.

It would also be valuable to include 30 year goals of 0.04 ppm for SMB (1.0×10^{-5}) and possibly 0.20 ppm for carp. A 30 year goal for unlimited consumption of walleye was specified in the Fox River FS and ROD. We can discuss the merit of 30 year goals further as a group.

•RAO 1: Protect humans who consume Kalamazoo River fish from exposure to PCBs that exceed protective levels. The RAO is

expected to be progressively achieved over time by meeting the following targets for sediment and fish tissue:

–Sediment Target

- A SWAC of 0.33 mg/kg in each of the eight segments within Area 1 of the Kalamazoo River within 10 years following remedy implementation

–Fish Tissue Targets

- A reduction in the fish advisory level for smallmouth bass to one meal per week (0.06 to 0.2 mg/kg)
- Achievement of a non-cancer Hazard Index (HI) of 1.0 (immunotoxicity RfD) and a cancer risk less than 5×10^{-5} for the high end sport angler (100% bass diet) within 10 years following remedy implementation

•RAO 4: Reduce the transport of PCBs from Area 1 to downstream areas and Lake Michigan. Including transport of PCBs from riverbank and floodplain soils to the Kalamazoo River.

This RAO is intended to reduce the rate of transport of PCBs from Area 1 to downstream areas of the Kalamazoo River and Lake Michigan.